UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,890	02/27/2002	David M. Lucas	P1695USA	4131

8968 7590 06/02/2003

PATENT DOCKET DEPARTMENT
GARDNER CARTON & DOUGLAS LLC
191 N. WACKER DRIVE, SUITE 3700
CHICAGO, IL 60606

EXAMINER
AUGHENBAUGH, WALTER

ART UNIT	PAPER NUMBER
1772	6

DATE MAILED: 06/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/085,890	Applicant(s) LUCAS ET AL.	
	Examiner Walter B Aughenbaugh	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-11 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-11 and 13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. The amendments made to page 2 of the specification given on page 2 of Applicant's Amendment (Paper #4) have been received and considered by Examiner. The text "beginning at page 2, line 1 and ending at page 1, line 14" given in the first sentence on page 2 of Paper #4 should read "beginning at page 2, line 1 and ending at page 2, line 14".

2. The amendments made in Claims 1, 2, 6 and 8-10 given on pages 3 and 4 of Paper #4 have been received and considered by Examiner.

3. New claim 13 given on page 4 of Paper #4 has been received and considered by Examiner.

4. Examiner acknowledges the cancellation of claims 3 and 12 in Paper #4.

WITHDRAWN OBJECTIONS

5. The objection to the specification made of record in paragraph 1 on page 2 of Paper #3 has been withdrawn due to Applicant's amendments to the specification made in Paper #4.

WITHDRAWN REJECTIONS

6. The 35 U.S.C. 112, first paragraph rejection of claim 1 made of record in paragraph 3 on pages 2-3 Paper #3 has been withdrawn due to Applicant's amendments in Paper #4.

7. The 35 U.S.C. 112, first paragraph rejection of claim 6 made of record in paragraph 4 on page 3 of Paper #3 has been withdrawn due to Applicant's arguments on page 5 of Paper #4.

8. The 35 U.S.C. 112, second paragraph rejection of claim 1, in regard to all of the reasons for the rejection with the exception of the lack of structure of the article provided in the claim, has been withdrawn due to Applicant's amendments in Paper #4.

9. The 35 U.S.C. 112, second paragraph rejection of claim 1, in regard to the lack of structure of the article provided in the claim, has been withdrawn due to Examiner's reconsideration. Examiner wishes to make it clear on the record that the subject matter of MPEP 2173.05(t) (cited by Applicant in page 6 of Paper #4) is not applicable to claim 1. Claim 1 is not a "chemical compound" claim or a "composition" claim. Claim 12 is an article claim. Examiner refers to the structure of the article in paragraph 6 of Paper #3 (i.e. the second full paragraph on page 4) as the language of the second full paragraph on page 4 makes abundantly clear, not the chemical structure of the material of the article as Applicant has interpreted the rejection as referring to given Applicant's citation of MPEP 2173.05(t).

10. The 35 U.S.C. 112, second paragraph rejection of claims 6 and 8-10 made of record in paragraph 6 on pages 3-5 of Paper #3 has been withdrawn due to Applicant's amendments in Paper #4.

11. The 35 U.S.C. 112, second paragraph rejection of claim 12 made of record in paragraph 6 on pages 3 and 5 of Paper #3 has been withdrawn due to Applicant's cancellation of claim 12 in Paper #4.

12. The 35 U.S.C. 102(b) rejection of claims 1, 2, 4, 5 and 9-11 as anticipated by Stevenson (US 5,254,635) made of record in paragraph 8 on pages 6 and 7 of Paper #3 has been withdrawn due to Applicant's amendments in Paper #4 and has been replaced with the new 35 U.S.C. 102(b) rejection of claims 1, 2, 4, 5 and 9-11 as anticipated by Stevenson (US 5,254,635) made of record in this Office Action (Paper #6).

13. The 35 U.S.C. 102(b) rejection of claims 3 and 12 as anticipated by Stevenson (US 5,254,635) made of record in paragraph 8 on pages 6 and 7 of Paper #3 has been withdrawn due to Applicant's cancellation of claims 3 and 12 in Paper #4.

14. The 35 U.S.C. 103(a) rejection of claims 6-8 over Stevenson (US 5,254,635) in view of Stevenson (US 4,695,609) made of record on pages 8 and 9 of Paper #3 has been withdrawn due to Applicant's amendments in Paper #4 and has been replaced with the new 35 U.S.C. 103(a) rejection of claims 6-8 over Stevenson (US 5,254,635) in view of Stevenson (US 4,695,609) made of record in this Office Action (Paper #6).

NEW REJECTIONS

Claim Rejections - 35 USC § 102

15. Claims 1, 2, 4, 5, 9-11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Stevenson et al. (US 5,254,635).

In regard to claim 1, Stevenson et al. teach an article composed of polyisoprene latex (col. 5, lines 6-12), sulfur (col. 4, lines 35-37), a thiuram compound and a dihydrocarbyl xanthogen polysulfide (corresponding to the xanthogen compound as claimed) as a rubber-curing agent (col. 4, lines 3-7). Since Stevenson et al. teach that the rubber which is used, which is preferably synthetic polyisoprene, may be in latex or dry form (col. 5, lines 6-12), the latex taught by Stevenson is a liquid polyisoprene latex emulsion. Since Stevenson et al. teach that the xanthogen compound is a curing agent, Stevenson et al. teach a polyisoprene article that is made by curing a composition comprising a liquid polyisoprene latex emulsion, sulfur, a thiuram compound and a xanthogen compound.

In regard to claims 2, 4 and 5, Stevenson et al. teach that the thiuram compound is tetrabenzyl thiuram disulfide (col. 4, lines 65-68, col. 2, lines 15-22 and col. 5, lines 30-68). Stevenson et al. teach that the tetrabenzyl thiuram disulfide is present in an amount of 0.1 to 1.5 parts per part of the dihydrocarbyl xanthogen polysulfide (col. 4, lines 65-68), which is present in an amount of 0.5-6 parts by weight per 100 parts by weight of the rubber (i.e. polyisoprene) (col. 3, line 35 and col. 4, lines 28-31). Therefore, the range claimed in claim 4 of 0.45-0.75 parts thiuram compound per 100 parts polyisoprene falls within the range taught by Stevenson et al., as does the value claimed in claim 5 of 0.6 parts thiuram compound per 100 parts polyisoprene.

In regard to claims 9 and 10, Stevenson et al. teach that the xanthogen compound is present in an amount of 0.5-6 parts by weight per 100 parts by weight of the rubber (i.e. polyisoprene) (col. 3, line 35 and col. 4, lines 28-31).

In regard to claim 11, Stevenson et al. teach that the article is intended for skin contact and that the material is shaped into contraceptives (col. 3, lines 13-25). A condom is a contraceptive.

In regard to claim 13, Stevenson et al. teach that the general formula of the xanthogen polysulfides is $R^1O\text{-}CS\text{-}S_x\text{-}CS\text{-}OR^2$ where x "is at least 2, and often greater than 2, e.g. 4 or 5" (col. 4, lines 7-13). Stevenson et al. further teach that R^1 and R^2 are preferably each $C_{1\text{-}6}$ alkyl and are usually the same and that isopropyl is a suitable R group (col. 4, lines 13-16). Stevenson et al. therefore teach that the xanthogen compound is diisopropyl xanthogen polysulfide. Stevenson et al. also teach that the xanthogen compound is dibutyl xanthogen disulfide in the event that x is 2 and R^1 and R^2 are C_4 alkyl (butyl) groups.

Claim Rejections - 35 USC § 103

16. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevenson et al. ('635) in view of Stevenson (US 4,695,609).

Stevenson et al. ('635) teach the polyisoprene article as discussed above.

In regard to claim 6, Stevenson et al. ('635) fail to teach that the article further comprises zinc dibenzyldithiocarbamate. Stevenson ('609), however, discloses that dithiocarbamates are widely used as accelerators and curing agents for rubber goods (col. 1, lines 11-25). Stevenson ('609) discloses that zinc dibenzyldithiocarbamate as a dithiocarbamate additive for latex formulations (col. 1, lines 15-19 and col. 8, lines 50-68). Therefore, one of ordinary skill in the art would have recognized to have used zinc dibenzyldithiocarbamate as an accelerator or curing agent of the polyisoprene article of Stevenson et al. ('635) since zinc dibenzyldithiocarbamate is a notoriously well known accelerator and curing agent for rubber goods as taught by Stevenson ('609).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used zinc dibenzyldithiocarbamate as an accelerator or curing agent of the polyisoprene article of Stevenson et al. ('635) since zinc dibenzyldithiocarbamate is a notoriously well known accelerator and curing agent for rubber goods as taught by Stevenson ('609).

In regard to claims 7 and 8, Stevenson ('609) disclose that 0.2 parts zinc dibenzyldithiocarbamate are added to 100 parts latex (col. 8, line 68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have adjusted the amount of zinc dibenzyldithiocarbamate added to the polyisoprene to 0.3-0.5 parts (including 0.4

parts) per 100 parts of polyisoprene in order to achieve the optimal acceleration or curing results depending on the particular desired end user result through routine experimentation, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

ANSWERS TO APPLICANTS ARGUMENTS

17. Applicant's arguments on pages 6-9 of Paper #4 regarding the 35 U.S.C. 102(b) rejection of claims 1-5 and 9-12 as anticipated by Stevenson et al. (US 5,254,635) have been fully considered but are not persuasive.

Contrary to Applicant's argument that "Stevenson '635 does not teach the combination of liquid latex, sulfur, a thiuram and a xanthogen (the claimed inention)", Stevenson '635 does indeed teach the combination of a liquid polyisoprene latex emulsion, sulfur, a thiuram compound and a xanthogen compound as made of record in the 35 U.S.C. 102(b) rejection of claim 1 as anticipated by Stevenson et al. ('635) provided in this Office Action (Paper #6). Stevenson et al. ('635) plainly teach that sulfur may be a component of the composition (col. 4, lines 35-37) and that the polyisoprene may be in latex (wet) form (col. 5, lines 6-12). The particulars of the case law that Applicant relies upon do not apply in the instant case. The examples of Stevenson et al. ('635) that Applicant relies upon are merely examples provided in addition to the disclosure of Stevenson et al. ('635) given in columns 1-5.

Examiner agrees with Applicant that claim 1 of Stevenson et al. ('635) does not disclose sulfur as Applicant points out in the first full paragraph of page 7 of Paper #4, but the disclosure of Stevenson et al. ('635) taken as a whole does indeed teach the combination of a liquid

polyisoprene latex emulsion, sulfur, a thiuram compound and a xanthogen compound as claimed by Applicant as discussed in the previous paragraph.

Applicant's argument that "dry rubber differs chemically from a liquid latex emulsion" in the last paragraph of page 7 and the first paragraph of page 8 (of Paper #4) is moot because Stevenson et al. ('635) plainly teach that the polyisoprene may be in latex form or dry form (col. 5, lines 6-12). The teaching of Stevenson et al. ('635) that sulfur may be a component of the composition (col. 4, lines 35-37) is not limited to a composition that has polyisoprene in a particular form, i.e. latex form or dry form. Applicant's arguments that Stevenson et al. ('635) "recognizes the fact that dry rubber and liquid latex are chemically dissimilar" and that "the cure process is different [between the two types of rubber]" as supported by the different vulcanization temperature ranges for the two different rubber types taught by Stevenson et al. ('635) (second paragraph on page 8 of Paper #4) are also moot for the same reasons.

Applicant's statement in the third paragraph of page 8 of Paper #4 that Stevenson et al. ('635) "teach the use of latex only with a sulfur-free cure package" is incorrect as discussed above.

18. Applicant's arguments on pages 9-10 of Paper #4 regarding the 35 U.S.C. 103(a) rejection of claims 6-8 over Stevenson et al. (US 5,254,635) in view of Stevenson (US 4,695,609) have been fully considered but are not persuasive.

Stevenson ('635) does not teach away from "the use of sulfur in the cure package for a liquid latex" as Applicant alleges in the fourth paragraph of page 9 of Paper #4, as discussed in the response to Applicant's arguments to the 35 U.S.C. 102(b) rejection of claim 1 provided above. In response to Applicant's argument that the elongation loss on ageing of rubber without

sulfur (as in Example 4 of Stevenson et al. '635) is less than that of rubber without sulfur (as in Examples 8 and 12), Stevenson et al. ('635) teach that combinations of diisopropyl xanthogen polysulfide and tetrabenzylthiuram disulfide (as in Example 8) produce vulcanizates of superior physical properties and good transparency that are free from odour or taste and have relatively good ageing properties (col. 7, lines 9-13). Futhermore, Stevenson et al. ('635) teach that Example 12, which comprises diisopropyl xanthogen polysulfide, sulfur and tetrabenzylthiuram disulfide, has good physical properties such as tensile strength (col. 7, lines 22-30). Note that Examples 8 and 12 are both illustrative of the invention of Stevenson et al. ('635) and are not comparative examples. Therefore, Stevenson et al. ('635) DO NOT teach away from "the use of sulfur with a thiuram and a xanthogen in a cure package" as Applicant alleges in the sentence bridging page 9 and 10 of Paper #4 because Stevenson et al. ('635) teach that Examples 8 and 12, which contain diisopropyl xanthogen polysulfide, tetrabenzylthiuram disulfide and sulfur, have desirable properties beside elongation loss on ageing. The combination of Stevenson et al. ('635) and Stevenson ('609) as made of record in Paper #3 and in this Office Action (Paper #6) is therefore proper since Stevenson et al. ('635) does not teach away from the instant invention as claimed.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B Aughenbaugh whose telephone number is 703-305-4511. The examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 703-308-4251. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

wba
05/19/03 WBA

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

5/30/03